

小升初英文奥数题系列之一

2007-1-1

- 1、 In 2004, 16 June falls on a Wednesday. On what day of the week will 16 June fall in 2010?
- 2、 In a magic square the sum of the numbers in each row, in each diagonal and in each column are equal. In this magic square the value of x is: (图打不开)
- 3、 If half of a number is 30, then three-quarters of that number is_____.
- 4、 The sum of the digits of the following product
 999×555
- 5、 Three positive integers have a sum of 28. The greatest possible product that these integers can have is_____.
- 6、 Jack was trying to tessellate regular pentagons. He managed the following figure (图打不开)
The size of angle .a. is_____.
- 7、 If the area of the shaded region of the regular hexagon in the diagram below is 36 cm², the area of the whole hexagon in cm² is_____. (图打不开)
- 8、 In what follows, \square and Δ are different numbers.
When 503 is divided by \square the remainder is 20.
When 503 is divided by Δ the remainder is 20.
When 493 is divided by $\square \times \Delta$ the remainder is_____.
- 9、 A lady, her brother, her son and her daughter (all related by birth) played volleyball. The worst player's twin (who is one of the four players) and the best player are of opposite sex.
The worst player and the best player are of the same age.
Who cannot be the worst player(s)?
A) brother only B) daughter only
C) son and daughter only D) lady and daughter only
E) lady only
- 10、 If you continue the given number pattern, in what row and in what position in that row will the number 320 be?

1 ----- row 1
2 3 ----- row 2
4 5 6 ----- row 3
7 8 9 10 ----- row 4

The answers are given in the order of row ; position.

参考答案:

- 1、 Wednesday 2、 12 3、 45 4、 27 (求数位上上的数字之和) 5、 $28=9+9+10$, 因此答案为 810 6、 36 度 7、 108 8、 $503-20=483$ $483=3 \times 7 \times 23=21 \times 23$, 因此 $\square \times \Delta = 483$, 因此此题余数是 10. 9、 D 10、 25, 20

小升初英文奥数题系列之二

- 1、 Did you know? In the decimal number system (base 10) ten different digits, 0 to

9, are used to write all the numbers. In the binary number system (base 2) two different digits are used, i.e. 0 and 1.

Which one of the following numbers is not a valid number in the octal number system (base 8)?

A) 128 B) 127 C) 126 D) 125 E) 124 (图打不开)

3、The number of diagonals that can be drawn in a regular polygon with twenty sides (icosagon) is_____.

4、If a and b are integers, $10 \otimes 3 = 1$, $152 \otimes 7 = 3$, and then $379 \otimes 6$ is equal to_____.

5、Two numbers are in the ratio 2 : 3. When 4 is added to each number the ratio changes to 5 : 7.

The sum of the two original numbers is_____.

6、The greatest number of Mondays which can occur in 45 consecutive days is_____

7、Saul plays a video game in which he scores 4 for a hit and lost 6 for a miss. After 20 rounds his score is 30. The number of times he has missed is_____.

8、Three girls A, B and C run in a 100 m race. When A finishes, B is 10 m behind A and when B finishes C is 20 m behind B. How far in metres was C from A when A finished?

(Let's assume all the athletes run at a constant speed)

9、The areas of the faces of a rectangular box are 84 cm^2 , 70 cm^2 and 30 cm^2 . The volume of the box in cm^3 is_____.

10、You have 3 weights: 1 kg, 3 kg and 9 kg as well as an equal arm balance, as shown. How many different weight objects can you weigh with these three?

[Remember the weights may be placed on either side]

参考答案:

1、A 考察我们学过的简单的进制问题，显然 8 进制中没有 8 出现

2、B 用排除法

3、170 找规律，公式为 $n \times (n-3) \div 2$

4、1 定义新运算，就是求 $379 \div 6$ 的余数。

5、40, 16 和 24

6、7

7、5

8、28 米，根据距离比求出速度比，三者的速度比为 1: 9/10: 18/25

9、420 分解质因数

10、13 种

1、An ant covers a distance of 90 metres in 3 hours. The average speed of the ant in decimetres per minute is_____.

2、(图打不开)

3、In a certain town some people were affected by a 'flu' epidemic. In the first month 20% of the population contracted the flu whilst 80% were healthy.

In the following month 20% of the sick people recovered and 20% of the healthy people contracted the disease.

What fraction of the population is healthy at the end of the second month?

4、Mpho, Barry, Siphon, Erica and Fatima are sitting on a park bench.

Mpho is not sitting on the far right. Barry is not sitting on the far left.

Siphon is not sitting at either end. Erica is sitting to the right of Barry, but not necessarily next to him. Fatima is not sitting next to Siphon.

Siphon is not sitting next to Barry.

Who is sitting at the far right?

5、Of the 28 T-shirts in a drawer, six are red, five are blue, and the rest are white. If Bob selects T-shirts at random whilst packing for a holiday, what is the least number he must remove from the drawer to be sure that he has three T-shirts of the same colour?

6、In an alien language, jalez borg farn means "good maths skills". Nurf klar borg means "maths in harmony" and darko klar farn means "good in gold".

What is "harmony gold" in this language?

7、Five children, Amelia, Bongani, Charles, Devine and Edwina, were in the classroom when one of them broke a window. The teacher asked each of them to make a statement about the event, knowing that three of them always lie and two always tell the truth. Their statements were as follows:

Amelia: "Charles did not break it, nor did Devine."

Bongani: "I didn't break it, nor did Devine."

Charles: "I didn't break it, but Edwina did."

Devine: "Amelia or Edwina broke it."

Edwina: "Charles broke it."

Who broke the window?

8、Did you know? A palindrome is a number which reads the same forwards as backwards e.g. 35453. Next year 2002 is an example of a palindromic number. What is the difference between 2002 and the number of the previous palindromic year?

9、If $a \oplus b = (3 \times b)$ then the value of $2 + (2 \times a) \oplus (3 \oplus 5)$ is_____.

10、Two ants start at point A and walk at the same pace. One ant walks around a 3 cm by 3 cm square whilst the other walks around a 6 cm by 3 cm

rectangle. What is the minimum distance, in centimetres, any one must cover before they meet again? (图打不开)

参考答案:

1、单位换算, 注意单词, $90 \times 10 \div (3 \times 60) = 5$

2、46

3、0.68

4、Erica

5、抽屉原则 7

6、注意一一对应, borg= maths, farn=good, jalez=skills. Klar=in, Nurf=harmony, darko=gold. 答案是 Nurf darko.

- 7、 Charles
- 8、 1001
- 9、 67
- 10、 108

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